MILFORD

METAL CUTTING SAW BLADES

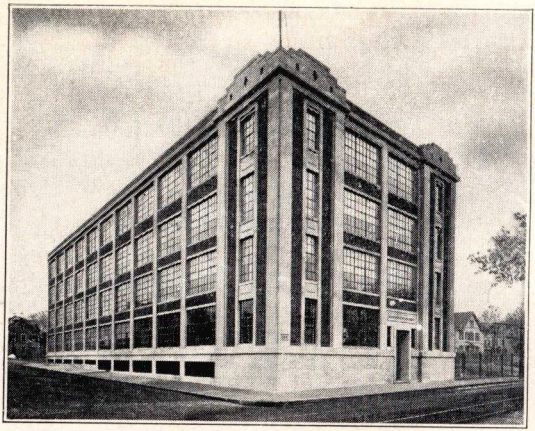
INCLUDING A GUIDE FOR USING HAND-FRAME AND POWER HACK SAW BLADES

GENERAL CATALOG OF METAL CUTTING SAW BLADES

Including a Guide for using Hand Frame and Power Machine Hack Saw Blades

The hack saw blades listed conform to the industry's simplified practice recommendation No. R90-29, as issued by the U. S. Department of Commerce. Experience has proved these sizes to be the most practical for average purposes and we recommend their use.

FORM 102—JAN. 1936 PRINTED IN U. S. A.



FACTORY AND OFFICE, NEW HAVEN, CONN.

THIS Company has been making Metal Cutting Saw Blades since 1876. The entire products of the Company are metal cutting saws. This modern plant is equipped with the latest type of machinery, hardening furnaces, and testing devices. The thorough knowledge gained in long specialization enables us to offer metal cutting saw blades that have met the exacting requirements of industry throughout the world.

THE HENRY G. THOMPSON & SON CO.

ALL saw blades made by this Company are made from steels especially selected for the particular type of blade. The teeth on all types of blades are scientifically designed to give the fastest cutting and greatest strength. Milford hack saw blades and band saw blades have milled teeth, which insure uniformity of size, and keenest cutting edge.

Special machines, most of which are of our own design and construction, are used in a great many of the fabricating processes. All hack saw blanks pass through a machine that eliminates all rolling strains in the blank before heat treatment. Heat treating furnaces are equipped with automatically operated heat controls and temperature recording devices. In hardening, all hack saw blades, properly spaced, pass continuously through the furnace, and each blade is subjected to exactly the same degree of radiated heat, and remains in the furnace the same length of time to assure uniformity of hardness.

The teeth of all metal cutting saws are accurately set to gauge, and must be uniform from side to side, as well as overall set. Every Milford hack saw blade is inspected and straightened by hand. Our inspection laboratory is equipped with the latest scientific instruments, which enable us to determine the exact hardness of blades, even to the points of the teeth. Other instruments detect any flaws in raw material or finished blades, and determine if the physical structure and grain size of the blades conform to our high standards.

MILFORD
HACK SAW BLADES

are made in five types:

Flexible Tungsten Alloy Steel (green label) a hard tooth, flexible back saw; unbreakable in a frame; for general maintenance use and preferred by electricians, plumbers, and automobile mechanics. See Page 11.

All Hard Tungsten Alloy Steel (blue label) a thoroughly uniform all hard saw, preferred by tool makers, bench workers and skilled mechanics. See Page 11.

REZISTOR Special Alloy High Speed Steel (orange label). The new type High Speed Steel blade for fast cutting; very hard and unusually flexible. The blade that gives lowest cost per cut. See Page 7.

Tungsten "High Speed" Steel (red label). The old type 18-4-1 tungsten high speed steel blade for cutting at high speed. See Page 13.

Safety Blade (brown label). A tungsten alloy hack saw blade, specially heat treated. Practically as hard as an all hard saw, yet cannot be broken accidentally. An unbreakable saw is demanded by many Safety Councils. See Page 16.

All Five Types of Saws, in Hand Frame Sizes Only, Are Made with the Duplex Easy Starting Teeth

THE HENRY G. THOMPSON & SON CO.

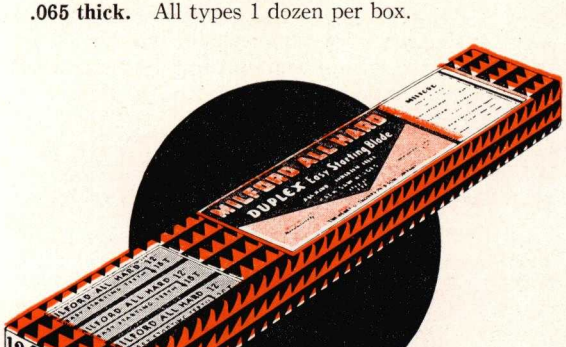
PACKING

.025 thick. All types ½ gross per box.

.032 thick. All types ½ gross per box.

.049 thick. Tungsten alloy. ⅓ gross per box.
High Speed Steel (both types) 1 dozen per box.

.065 thick. All types 1 dozen per box.



MILFORD DUPLEX BLADES IN NEW PACKAGE

No guessing what is in the box. You can see (through cellophane window) the type and number of dozens. No possibility of short counts.

End labels (colored to match blade markings) tell at a glance the type of blade — same idea as used in identifying various grades of steel in steel warehouses.

Large white type against these colored backgrounds makes the labels easy to read, even in poorly lighted stockrooms.

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

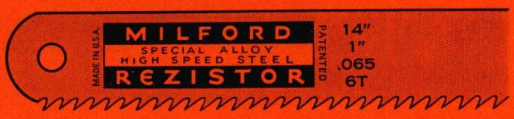
MILFORD REZISTOR SPECIAL ALLOY HIGH SPEED STEEL

Hand and Power Hack Saw Blades for Low Cost Cutting at High Speed

The extraordinary wear resisting qualities of Milford Rezistors — especially in cutting stainless steels of all description, high speed and manganese steels, welded pipe, etc., well justify the name of these modern high speed blades.

Their perfection is the result of an exclusive analysis of special alloy high speed steel and absolutely controlled heat treating process. Milford Rezistors offer an exceptional resistance to heat and wear when cutting at high speed. They are harder and tougher than the old type of tungsten high speed blades, and in power sizes cost approximately 20% less.

Milford Rezistors will give the lowest cost per cut.



THE HENRY G. THOMPSON & SON CO.

MILFORD REZISTOR

SPECIAL ALLOY HIGH SPEED STEEL HACK SAW BLADES

DUPLEX HAND FRAME SIZES

Length Inches	Width Inches	Thick.	Duplex Teeth per Inch and Stock Number				List Price Per Gross	Wgt. Per Gross Lbs.
			14-28	18-36	24-36	32-36		
10	1-2	.025		RD1018	RD1024	RD1032	$40.00	5-0
12	1-2	.025	RD1214	RD1218	RD1224	RD1232	48.00	6½
10	5-8	.032		RD0828			67.50	7¾
12	5-8	.032		RD2828			81.00	9¾

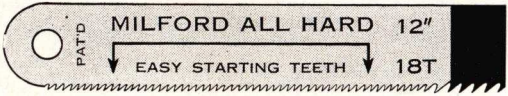
POWER MACHINE SIZES

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				List Price Per Dozen	Wgt. Per Dozen Lbs. Ozs.
			4	6	10	14		
12	1	.049				R1214	$10.08	2-2
	1	.065		R1206	R1210		10.08	2-12
14	1	.049				R1214	11.76	2-4
	1	.065		R1406	R1410		11.76	3-1
	1¼	.065	R1444	R1446	R1440		14.70	3-14
17	1	.049				R1714	14.28	3-0
	1	.065		R1706	R1710		14.28	3-8
	1¼	.065	R1744	R1746	R1740		17.85	4-12
18	1	.065			R1810		15.12	4-2
	1¼	.065	R1844	R1846	R1840		18.90	5-0
	1½	.072	R1824	R1826			24.84	6-8
21	1½	.065	R2154	R2156	R2150		26.46	6-15
	2	.072	R2124	R2126			38.64	11-10
24	1½	.065		R2456	R2450		30.24	8-7
	2	.072	R2424	R2426			44.16	12-3

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD DUPLEX HACK SAW BLADES

Unlike any blade on the market



THEY HAVE EASY STARTING TEETH

This means:

1. The blade takes hold at once.
2. No sticking in corners.
3. The cut can be spotted exactly where it is wanted.
4. The Easy Starting Teeth help guide the blade for straight, clean cutting.
5. The user gets a fine, full sweep — right from the point — on every cut.

(*Most blades — because of the need for center starting — become worn out at this point long before the end teeth show real signs of wear. Blades are frequently discarded as unfit for further service with fifty per cent of their value wasted.*)

Because you use all of a Milford Duplex, you not only speed up production, but effect a genuine saving in blade costs.

Milford Duplex Blades cost no more than the old fashioned blades

Note improved packaging — Page 5

THE HENRY G. THOMPSON & SON CO.

MILFORD DUPLEX HACK SAW BLADES

MILFORD ALL HARD—Tungsten Alloy Steel

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number			Price per Gross	Wgt. per Gross Lbs.
			14-28	18-36	24-36		
8	7-16	.025		MD 818	MD 824	$8.00	3¾
10	1-2	.025	MD1014	MD1018	MD1024	10.00	4½
12	1-2	.025	MD1214	MD1218	MD1224	12.00	5¾
12	9-16	.025	MD1264	MD2618	MD2624	13.50	6¾

MILFORD FLEXIBLE—Tungsten Alloy Steel

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number			Price per Gross	Wgt. per Gross Lbs.
			14-28	18-36	24-36		
8	7-16	.025		FD 818	FD 824	$8.00	3¾
10	1-2	.025	FD1014	FD1018	FD1024	10.00	4½
12	1-2	.025	FD1214	FD1218	FD1224	12.00	5¾
12	9-16	.025	FD2614	FD2618	FD2624	13.50	6¾

MILFORD REZISTOR—Special Alloy High Speed Steel

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				List Price per Gross	Wgt. per Gross Lbs.
			14-28	18-36	24-36	32-36		
10	1-2	.025		RD1018	RD1024	RD1032	$40.00	5-0
12	1-2	.025	RD1214	RD1218	RD1224	RD1232	48.00	6½
10	5-8	.032		RD0828			67.50	7¾
12	5-8	.032		RD2828			81.00	9¾

MILFORD "HIGH SPEED"—Tungsten High Speed Steel

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number			Price per Gross	Wgt. per Gross Lbs.
			14-18	18-36	24-36		
10	9-16	.025		HD1018	HD1024	$40.32	6¼
12	9-16	.025	HD1214	HD1218	HD1224	48.96	7
10	5-8	.032		HD0828		90.00	8
12	5-8	.032		HD2828		108.00	10

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD
TUNGSTEN ALLOY STEEL
HACK SAW BLADES

These blades are made from a steel of our own special formula, adopted only after long periods of experimenting and testing. Milford tungsten alloy blades are particularly free from scale, therefore exceptionally uniform in hardness and quality, and are made in three types.

All Hard hand frame sizes.

Flexible Back (teeth only hardened) hand frame sizes only.

All Hard light power sizes.

Milford Tungsten Alloy blades, both All Hard and Flexible, in hand frame sizes only are also made with the Duplex Easy-Starting Teeth. See Page 9.

The All Hard blade is recommended for mechanics or for general bench work where the material cut can be held steady or in a vise. This type of blade is preferred by toolmakers, mechanics, and skilled sawyers for its exceptional uniformity and accuracy.

The Flexible Back saw is equally as accurate and as uniform in quality as the All Hard blade, but is hardened on the tooth edge only, the back being left in its original annealed state. The Flexible saw cannot be broken in a frame, and is preferred by plumbers, electricians, garage workers, etc., for cutting in cramped quarters and out-of-the-way places.

THE HENRY G. THOMPSON & SON CO.

MILFORD

TUNGSTEN ALLOY STEEL HACK SAW BLADES

ALL HARD—HAND FRAME SIZES

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				List Price Gross	Wgt. per Gross Lbs.
			14	18	24	32		
8	7-16	.025		M 818	M 824	M 832	$8.00	3¾
10	1-2	.025	M1014	M1018	M1024	M1032	10.00	4½
12	1-2	.025	M1214	M1218	M1224	M1232	12.00	5¾
	9-16	.025	M2614	M2618	M2624		13.50	6¾

FLEXIBLE—HAND FRAME SIZES ONLY

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				List Price Gross	Wgt. per Gross Lbs.
			14	18	24	32		
8	7-16	.025		F 818	F 824	F 832	$8.00	3¾
10	1-2	.025	F1014	F1018	F1024	F1032	10.00	4½
12	1-2	.025	F1214	F1218	F1224	F1232	12.00	5¾
	9-16	.025	F2614	F2618	F2624		13.50	6¾

POWER SIZES

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number			List Price Gross	Wgt. per Gross Lbs.
			10	14	18		
12	5-8	.032		M2824	M2828	$16.20	9½
	3-4	.032		M2424	M2428	19.44	11
	3-4	.049	M2490	M2494		24.48	17½
	1	.049	M2190	M2194		32.64	23
14	3-4	.032		M4424		22.68	12½
	3-4	.049	M4490	M4494		28.56	20¼
	1	.049	M4190	M4194		38.08	27
	1¼	.065	M4450			58.80	46
17	1	.049	M7190	M7194		46.24	33
	1¼	.065	M7450			71.40	54
18	1¼	.065	M8450			75.60	59
21	1½	.065	M1250			105.84	82½
24	1½	.065	M4250			120.96	95

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD "HIGH SPEED"
Tungsten High Speed Steel
HACK SAW BLADES

Milford Tungsten "High Speed" blades are exceptionally uniform, and are unusually tough for the 18-4-1 type of steel. Our special process for heat treating high speed steel gives Milford blades a hardness and endurance that withstands wear.

Milford "High Speed" blades permit faster cutting speed and are found superior for cutting nickel alloys and high speed and tool steels.

MILFORD "HIGH SPEED"

Tungsten High Speed Steel

HACK SAW BLADES

HAND FRAME SIZES

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				Price per Gross	Wgt. per Gross Lbs.
			14	18	24	32		
10	9-16	.025		H1018	H1024	H1032	$40.32	6¼
12	9-16	.025	HH1214	H1218	H1224	H1232	48.96	7
10	5-8	.032		H0828			90.00	8
12	5-8	.032		H2828			108.00	10

HEAVY POWER SIZES

Length Inches	Width Inches	Thick.	Teeth per Inch and Stock Number				List Price Dozen	Wgt. per Dozen Lbs.Ozs
			4	6	10	14		
12	1	.049				H1214	$14.40	2- 3
	1	.065		H1206	H1210		14.40	3- 0
14	1	.049				H1414	16.80	2- 8
	1	.065		H1406	H1410		16.80	3- 6
	1¼	.065	H1444	H1446	H1440		21.00	4- 3
17	1	.049				H1714	20.40	3- 0
	1	.065		H1706	H1710		20.40	4- 0
	1¼	.065	H1744	H1746	H1740		25.50	5- 0
18	1	.065			H1810		21.60	4- 5
	1¼	.065	H1844	H1846	H1840		27.00	5- 5
	1½	.072	EH1824	EH1826			35.64	8- 0
21	1½	.065	H2154	H2156	H2150		37.80	7- 8
	2	.072	EH2124	EH2126			55.44	12-10
24	1½	.065		H2456	H2450		43.20	8-10
	2	.072	EH2424	EH2426			63.36	13- 4

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

THE MILFORD MIDGET

A 6-Inch Blade for Handy Work

The Milford Midget is a Wavy Set Blade with flexible back and hard teeth. It cuts rapidly and smoothly and, being of very thin gauge, removes little stock.

Milford Midgets are made expressly for use in Milford Midget Frames. Used everywhere by tool makers, radio workers, motorists, electricians and plumbers to cut wood, mica, bakelite, small drill rod, screws, bolts, cable, wire, thin tubing, etc.

An inexpensive and indispensable tool for use around the home as well as in the shop.

MILFORD MIDGET

Hard Teeth, Flexible Back

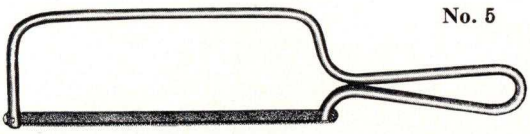
THE WAVY SET BLADE

Length Inches	Width Inches	Thickness	Teeth per Inch and Stock Number	List Price Gross	Weight per Gross Lbs.
			32		
6	1-4	.014	F632	$9.00	2

MILFORD MIDGET FRAMES

No. 3

LIST PRICE, with Blade, $3.00 per doz.



No. 5

LIST PRICE, with Blade, $4.20 per doz.

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD SAFETY BLADES UNBREAKABLE HACK SAW BLADES

Milford Safety Blades are unbreakable in a frame and they cannot be broken accidentally. This is the safest blade made. It will not buckle under pressure, and it will not fly in pieces if caught in the work or dropped. The Safety Council in many factories insists on this type of blade for both skilled and unskilled workmen.

Here is a blade that definitely ends wastage through breakage. The Milford Safety Blade is practically as hard as an all hard saw, yet it is so flexible that it can be bent from pinhole to pinhole without breaking. It is an ideal blade for plumbers, electricians, automobile mechanics, or for general maintenance use.

Made only in hand frame sizes with the Duplex Easy Starting Teeth.

MILFORD SAFETY BLADES TUNGSTEN ALLOY STEEL

HAND FRAME SIZES ONLY

Length Inches	Width Inches	Thick.	Duplex Teeth per Inch and Stock Number				List Price per Gross
			14-28	18-36	24-36	32	
8	7-16	.025		STD 818	STD 824	STD 832	$12.00
10	1-2	.025	STD1014	STD1018	STD1024	STD1032	15.00
12	1-2	.025	STD1214	STD1218	STD1224	STD1232	18.00

THE HENRY G. THOMPSON & SON CO.

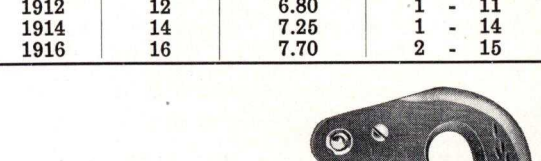
MILFORD COMPASS SAW BLADES

NO. 17—17 GA., 8 TEETH

Number	Length Inches	List Price per Dozen	Weight per Dozen Lbs. Ozs.
1710	10	$6.70	1 - 2
1712	12	7.25	1 - 11
1714	14	7.65	2 - 9
1716	16	8.21	2 - 14

NO. 19—19 GA., 8 TEETH

Number	Length Inches	List Price per Dozen	Weight per Dozen Lbs. Ozs.
1910	10	$6.35	1 - 2
1912	12	6.80	1 - 11
1914	14	7.25	1 - 14
1916	16	7.70	2 - 15



Milford Compass Saw Blades are made from highest quality spring tempered steel, specially tempered for toughness and hardness. The teeth are filed and scientifically set to give proper clearance, strength and keenness of cutting edge.

All Milford Compass Saw Blades are punched with pinhole, as well as slotted to fit handle firmly. End of blade tapers away from point, permitting use of the entire cutting point in small holes, etc. Milford Compass Saw Blades are guaranteed not to buckle or break at the point.

Milford Compass Saw Handles are made of beechwood, varnished and polished, wing nut and nickel screw, packed one dozen to a box.

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD FLEXIBLE BACK METAL CUTTING BAND SAW BLADES

Hard, tough blades, used in foundries for cutting sprues and gates from castings; in machine and die shops and for all classes of general cutting. Smooth, fast, accurate cutting.

Two Steels—RS and CC

RS STEEL

The letters "RS" designate a very hard, tough and durable steel. Recommended for cutting stainless steels, high speed steels, tool steels, machine steels, hard brass, hard bronze, cast iron, and drill rods.

CC STEEL

The letters "CC" designate a mild but very tough steel recommended for cutting soft brass, soft bronze, light angles, sheet brass, pipe and tubing, iron sheets, molding and drawn copper.

Two Sets—Standard and Wavy

STANDARD SET XX

Milford Band Saws are now made in one standard set, formerly known as straight set and designated by the letters "XX". Give smoothest and most accurate cut.

WAVY SET WS

Wavy Set blades are made to order only. This set is used for cutting very thin sheet metal, tubing, wire molding, etc.

Two Tempers—A and AA

TEMPER A

Both "RS" and "CC" steel saws are made in Temper A, a heat treatment that makes a hard, tough blade for cutting all metals.

TEMPER AA

This is a special temper, in "RS" Steel only, exceptionally hard, and furnished for cutting asbestos builders' board, slate, fibre, etc.

THE HENRY G. THOMPSON & SON CO.

MILFORD FLEXIBLE BACK METAL CUTTING BAND SAW BLADES

Standard Specifications

Width Inches	Thickness	Gauge	Teeth per Inch	List Prices in Coil or Cut to Length Per foot	List Prices Welding Each
3-16	.025	23	14-18-24-32	8c.	40c.
1-4	.025	23	14-18-24-32	9c.	40c.
3-8	.025	23	10-12-14-18-24-32	10c.	40c.
1-2	.025	23	10-12-14-18-24-32	11c.	40c.
5-8	.031	21	8-10-12-14-18-24-32	14c.	50c.
3-4	.031	21	6-8-10-12-14-18-24-32	16c.	50c.
1	.036	20	6-8-10-12-14-18-24-32	20c.	50c.

Jig Saw Coils, .025″ thick and 50 feet long ..... { 3-16 . . . $4.00 per coil; 1-4 . . . 4.50 per coil; 3-8 . . . 5.00 per coil

Magazine Saw Coils, 5-8″ wide, .031″ thick and 25 feet long..... 3.50 per coil

NOTE—Welded Saws, measuring 6 inches or more over the even foot, will be charged for the entire foot; less than 6 inches over the even foot will not be charged. Example: 1 saw 1-2 inch wide x 15 feet 8 inches equals 16 feet at 11c. ($1.76), welding 40 cents; total $2.16.

Delay will be avoided, satisfactory service will be more assured by carefully stating on all orders: (1) Length, (2) Width, (3) Gauge, (4) Teeth per Inch, (5) Type and Shape of Material to be Cut, (6) Temper of Blade Desired.

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD FLEXIBLE BACK METAL CUTTING BAND SAW BLADES

Cut to Length and Welded

List Price Cut to Length and Welded

Lengths Inclusive	Widths and Thicknesses					
	Under 3/8"	3-8" .025"	1-2" .025"	5-8" .032"	3-4" .032"	1" .035"
5'6"- 6'5"	$1.00	$1.00	$1.06	$1.34	$1.46	$1.70
6'6"- 7'5"	1.10	1.10	1.17	1.48	1.62	1.90
7'6"- 8'5"	1.20	1.20	1.28	1.62	1.78	2.10
8'6"- 9'5"	1.30	1.30	1.39	1.76	1.94	2.30
9'6"-10'5"	1.40	1.40	1.50	1.90	2.10	2.50
10'6"-11'5"	1.50	1.50	1.61	2.04	2.26	2.70
11'6"-12'5"	1.60	1.60	1.72	2.18	2.42	2.90
12'6"-13'5"	1.70	1.70	1.83	2.32	2.58	3.10
13'6"-14'5"	1.80	1.80	1.94	2.46	2.74	3.30
14'6"-15'5"	1.90	1.90	2.05	2.60	2.90	3.50
15'6"-16'5"	2.00	2.00	2.16	2.74	3.06	3.70
16'6"-17'5"	2.10	2.10	2.27	2.88	3.22	3.90
17'6"-18'5"	2.20	2.20	2.38	3.02	3.38	4.10
18'6"-19'5"	2.30	2.30	2.49	3.16	3.54	4.30
19'6"-20'5"	2.40	2.40	2.60	3.30	3.70	4.50
20'6"-21'5"	2.50	2.50	2.71	3.44	3.86	4.70

STANDARD BAND SAW BLADES FOR VARIOUS MACHINES

Armstrong-Blum	14′ 8″ long, 5/8″ or 3/4″ wide
Atkins No. 3	15′ 8″ long, 5/8″ or 3/4″ wide
Atkins No. 4	14′ 1″ long, 5/8″ or 3/4″ wide
Avey Milband	14′ 9″ long, 1″ wide
Clark Compound	15′ 6″ long, 1″ wide
Clark Junior	10′10″ long, 1/2″ or 5/8″ wide
Clark Special	10′10″ long, 1/2″ or 5/8″ wide
Delta 10″	5′ 6″ long, 1/4″ wide
Delta 12″	6′ 6″ long, 1/4″ wide
Houghton	12′ 6″ long, 5/8″ or 3/4″ wide
Klemm No. 1	11′ 2″ long, 5/8″ or 3/4″ wide
Klemm No. 2	15′ 8″ long, 5/8″ or 3/4″ wide
Thompson Milband	12′11″ long, 3/4″ wide
Milclark	10′10″ long, 3-16″to 3/4″wide
Napier	12′ 3″ long, 1″ wide
Napier, Jr.	8′ 4″ long, 3/4″ wide
Racine	7′ 8″ long, 1/8″ to 5/8″ wide
Thompson	15′ 8″ long, 5/8″ or 3/4″ wide
Wright	15′ 8″ long, 5/8″ or 3/4″ wide

MILFORD WOOD CUTTING BAND SAW BLADES

Milford Band Saws for cutting wood meet all the requirements of the most exacting wood sawyers. The finest steel is used in their manufacture. The teeth are cleanly cut, accurately set and filed.

These saws can be run for many hours without resharpening,—are easily sharpened and set when this operation is necessary. Milford Band Saws for wood cutting have also been used for metal cutting without apparent injury to the saws. This, of course, shows their very high quality, although for cutting metals we recommend our special metal cutting band saw blade.

MILFORD WOOD CUTTING BAND SAW BLADES

Standard Specifications

Width Inches	Thick.	Gauge	Teeth per Inch	List Price Per Foot	List Price Per Braze
1-8	.018	26	6	$ .13	$ .50
	.020	25	6	.13	
	.022	24	6	.13	
	.028	22	6	.13	
3-16	.018	26	6	.13	.50
	.020	25	6	.13	
	.022	24	6	.13	
	.028	22	4-5-6	.13	
1-4	.018	26	6	.13	.50
	.020	25	6	.13	
	.022	24	6	.13	
	.028	22	4-5-6	.13	
	.032	21	4-5	.13	
3-8	.018	26	6	.14	.50
	.020	25	6	.14	
	.022	24	6	.14	
	.028	22	4-5	.14	
	.032	21	3-4	.14	
1-2	.018	26	6	.15	.50
	.020	25	6	.15	
	.022	24	5	.15	
	.028	22	5	.15	
	.032	21	2-3-4-5	.15	
5-8	.022	24	4	.16	.60
	.032	21	3-4	.16	
3-4	.032	21	3-4-5	.18	.60
	.035	20	2-3	.18	
1	.035	20	2-3-4	.22	.70
1¼	.035	20	2-3	.26	
1½	.035	20	2-3	.32	.80
1¾	.035	20	2	.38	

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD WOOD CUTTING BAND SAW BLADES

Cut to Length and Brazed

Lengths Inclusive from	to	Widths 3/16	1/4	3/8	1/2	5/8	3/4	1	1¼	1½	1¾
5′-6″	6′-5″	$1.28	$1.28	$1.34	$1.40	$1.56	$1.68	$2.02	$2.26	$2.72	$3.08
6′-6″	7′-5″	1.41	1.41	1.48	1.55	1.72	1.86	2.24	2.52	3.04	3.46
7′-6″	8′-5″	1.54	1.54	1.62	1.70	1.88	2.04	2.46	2.78	3.36	3.84
8′-6″	9′-5″	1.67	1.67	1.76	1.85	2.04	2.22	2.68	3.04	3.68	4.22
9′-6″	10′-5″	1.80	1.80	1.90	2.00	2.20	2.40	2.90	3.30	4.00	4.60
10′-6″	11′-5″	1.93	1.93	2.04	2.15	2.36	2.58	3.12	3.56	4.32	4.98
11′-6″	12′-5″	2.06	2.06	2.18	2.30	2.52	2.76	3.34	3.82	4.64	5.36
12′-6″	13′-5″	2.19	2.19	2.32	2.45	2.68	2.94	3.56	4.08	4.96	5.74
13′-6″	14′-5″	2.32	2.32	2.46	2.60	2.84	3.12	3.78	4.34	5.28	6.12
14′-6″	15′-5″	2.45	2.45	2.60	2.75	3.00	3.30	4.00	4.60	5.60	6.50
15′-6″	16′-5″	2.58	2.58	2.74	2.90	3.16	3.48	4.22	4.86	5.92	6.88
16′-6″	17′-5″	2.71	2.71	2.88	3.05	3.32	3.66	4.44	5.12	6.24	7.26
17′-6″	18′-5″	2.84	2.84	3.02	3.20	3.48	3.84	4.66	5.38	6.56	7.64
18′-6″	19′-5″	2.97	2.97	3.16	3.35	3.64	4.02	4.88	5.64	6.88	8.02
19′-6″	20′-5″	3.10	3.10	3.30	3.50	3.80	4.20	5.10	5.90	7.20	8.40
20′-6″	21′-5″	3.23	3.23	3.44	3.65	3.96	4.38	5.32	6.16	7.52	8.78

CORRECT SPEED AND TEMPER FOR BAND SAW BLADES

For your information and guidance, we have compiled the CHART shown below containing our recommendations based on actual shop practice. It is, of course, possible to do freak cutting, but we believe it can safely be said that in each case the life of the Saw is impaired.

Material to be Cut	MILFORD Flexible Band Saw Blades		
	Teeth per Inch	Temper	Speed of Blade Ft. per Min. Not Over
Aluminum Alloy	12-14	A	150
Aluminum, Pure	6-8	A	3000
Asbestos Sheets	14	AA	150
Brass Castings, Soft	10-12	A	500
Brass Castings, Hard	12-14	A	150
Brass Sheets	14	A	1000
Bronze Castings	12-14	A	800
Bakelite	10	A	800
Cast Iron	14	A	150
Copper, Drawn	10-12	A	200
Carbon Tool Steel	14	A	100
Cold Rolled Steel	10-12	A	200
Drill Rod	14	A	100
Fibre	14	AA	500
High Speed Steel	12	A	100
Iron, Sheets	18	A	200
Machinery Steel	10-12	A	200
Manganese Bronze	12	A	150
Malleable Iron	12	A	200
Nickel Silver	22	A	100
Nickel Steel	14	A	100
Pipe, Iron	12-14	A	150
Slate	10-14	AA	80
Structural Steel	12-14	A	150
Tubing, Brass	14-18	A	300
Tubing, Steel	14-18	A	150

MILFORD SPRING TEMPER METAL CUTTING BAND SAW BLADES

Special Saw Steel—Rounded Backs—Bright Finish—Teeth Set and Sharpened—Can Be Easily Refiled and Reset.

Milford Spring Temper Metal Cutting Band Saws are particularly recommended for cutting soft, thin materials at high speed. For example:

> Soft sheet steel, tubing, wind-shield molding, small channels can be cut at 10,000 f.p.m. saw speed; soft aluminum, soft brass and bronze at 3,000 to 5,000 f.p.m. saw speed.

We have selected the very finest grade of steel for the manufacture of these saws to assure blades hard enough to give many hours of cutting before resharpening, yet sufficiently tough to withstand the terrific strain of high speeds at which the blades are operated.

MILFORD SPRING TEMPER METAL CUTTING BAND SAW BLADES

Standard Specifications

Width Inches	Thickness	Gauge	Teeth per Inch	List Price Per Foot	List Price Per Braze
1-4	.025	23	8-10	$ .14	$ .50
3-8	.025	23	8-10	.15	.50
	.032	21	8-10	.16	
1-2	.025	23	6-8-10	.17	.50
	.032	21	6-8-10	.18	
5-8	.025	23	4-6-8-10	.18	.60
	.032	21	4-6-8-10	.20	
	.035	20	4-6-8-10	.21	
3-4	.035	20	4-6-8	.23	.60
1	.035	20	4-6-8	.28	.60
1¼	.042	19	4-6	.35	.70
	.049	18	3-4	.38	

If not filed and set deduct 2c. per foot for each operation.

NEW HAVEN, CONN., U.S.A., ESTABLISHED 1876

MILFORD SPRING TEMPER METAL CUTTING BAND SAW BLADES

Cut to Length and Brazed

Lengths Inclusive		Widths and Thickness										
from	to	1/4 .025	3/8 .025	3/8 .032	1/2 .025	1/2 .032	5/8 .025	5/8 .032	5/8 .035	3/4 .035	1 .035	1 1/4 .042
5′-6″	6′-5″	$1.34	$1.40	$1.46	$1.52	$1.58	$1.68	$1.80	$1.86	$1.98	$2.28	$2.80
6′-6″	7′-5″	1.48	1.55	1.62	1.69	1.76	1.86	2.00	2.07	2.21	2.56	3.15
7′-6″	8′-5″	1.62	1.70	1.78	1.86	1.94	2.04	2.20	2.28	2.44	2.84	3.50
8′-6″	9′-5″	1.76	1.85	1.94	2.03	2.12	2.22	2.40	2.49	2.67	3.12	3.85
9′-6″	10′-5″	1.90	2.00	2.10	2.20	2.30	2.40	2.60	2.70	2.90	3.40	4.20
10′-6″	11′-5″	2.04	2.15	2.26	2.37	2.48	2.58	2.80	2.91	3.13	3.68	4.55
11′-6″	12′-5″	2.18	2.30	2.42	2.54	2.66	2.76	3.00	3.12	3.36	3.96	4.90
12′-6″	13′-5″	2.32	2.45	2.58	2.71	2.84	2.94	3.20	3.33	3.59	4.24	5.25
13′-6″	14′-5″	2.46	2.60	2.74	2.88	3.02	3.12	3.40	3.54	3.82	4.52	5.60
14′-6″	15′-5″	2.60	2.75	2.90	3.05	3.20	3.30	3.60	3.75	4.05	4.80	5.95
15′-6″	16′-5″	2.74	2.90	3.06	3.22	3.38	3.48	3.80	3.96	4.28	5.08	6.30
16′-6″	17′-5″	2.88	3.05	3.22	3.39	3.56	3.66	4.00	4.17	4.51	5.36	6.65
17′-6″	18′-5″	3.02	3.20	3.38	3.56	3.74	3.84	4.20	4.38	4.74	5.64	7.00
18′-6″	19′-5″	3.16	3.35	3.54	3.73	3.92	4.02	4.40	4.59	4.97	5.92	7.35
19′-6″	20′-5″	3.30	3.50	3.70	3.90	4.10	4.20	4.60	4.80	5.20	6.20	7.70
20′-6″	21′-5″	3.44	3.65	3.86	4.07	4.28	4.38	4.80	5.01	5.43	6.48	8.05

HOW TO ADJUST GUIDES ON BAND SAW MACHINES

To obtain the full cutting efficiency of a Band Saw Blade, careful attention should be given to the proper adjustment of the guide rolls, in connection with which we offer the following suggestions:

1. (a) Place the Saw on the wheels of the Band Saw Machine so that the teeth project slightly over the edge (or over the recess which is cut in the flange of the Band Saw Wheels on some machines).

   (b) In making this adjustment, the Saw should be operated without the guides.

2. (a) Install and Adjust the lower guide first.

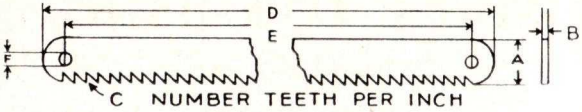
   (b) Using the Saw as a straight edge, the guide should be so set that the back of it comes barely in contact with the back of the Saw when running free.

   (c) The side rolls of the guides should be so adjusted as to hold the blade in the proper alignment for straight cutting.

   (d) If guide plates are used in place of rolls, they should be so adjusted as to permit the Saw to pass through them freely, without binding.

   (e) Bear in mind that the primary function of the guide is only to support the Saw.

3. The upper guide should then be adjusted in the same manner as described in paragraph number two.



EXACT DIMENSIONS OF HACK SAW BLADES

Rezistor and "High Speed"

Catalogue Length Inches	Catalogue Width Inches	Thick.	Number of Teeth per Inch	Length Over-All	C. to C. of Pin Holes	Hole Diam. Inches
HAND FRAME SIZES						
10	9/16	.025	18-24-32	10 7/16	9 7/8	5/32
10	5/8	.032	18	10 1/2	9 7/8	3/16
12	9/16	.025	14-18-24-32	12 7/16	11 7/8	5/32
12	5/8	.032	18	12 1/2	11 7/8	3/16
POWER SIZES						
12	1	.049	14	12 3/4	11 7/8	9/32
12	1	.065	6-10	12 3/4	11 7/8	9/32
14	1	.049	14	14 3/8	13 1/2	9/32
14	1	.065	6-10	14 3/8	13 1/2	9/32
14	1 1/4	.065	4-6-10	14 1/2	13 1/2	9/32
17	1	.049	14	17 3/8	16 1/2	9/32
17	1	.065	6-10	17 3/8	16 1/2	9/32
17	1 1/4	.065	4-6-10	17 1/2	16 1/2	9/32
18	1	.065	10	18 3/8	17 1/2	9/32
18	1 1/4	.065	4-6-10	18 1/2	17 1/2	9/32
18	1 1/2	.072	4-6	18 1/2	17 1/2	9/32
21	1 1/2	.065	4-6-10	22	21	9/32
21	2	.072	4-6	22 1/4	21	9/32
24	1 1/2	.065	6-10	25	24	9/32
24	2	.072	4-6	25 1/4	24	9/32
ALL TUNGSTEN ALLOY						
Hand Frame Sizes—All Hard and Flexible						
8	7/16	.025	18-24-32	8 5/16	7 7/8	5/32
10	1/2	.025	14-18-24-32	10 3/8	9 7/8	5/32
12	1/2	.025	14-18-24-32	12 3/8	11 7/8	5/32
12	9/16	.025	14-18-24	12 7/16	11 7/8	5/32
Power Sizes—All Hard						
12	5/8	.032	14-18	12 1/2	11 7/8	3/16
12	3/4	.032	14-18	12 5/8	11 7/8	7/32
12	3/4	.049	10-14	12 5/8	11 7/8	7/32
12	1	.049	10-14	12 3/4	11 7/8	9/32
14	3/4	.032	14	14 1/4	13 1/2	7/32
14	3/4	.049	10-14	14 1/4	13 1/2	7/32
14	1	.049	10-14	14 3/8	13 1/2	9/32
14	1 1/4	.065	10	14 1/2	13 1/2	9/32
17	1	.049	10-14	17 3/8	16 1/2	9/32
17	1 1/4	.065	10	17 1/2	16 1/2	9/32
18	1 1/4	.065	10	18 1/2	17 1/2	9/32
21	1 1/2	.065	10	22	21	9/32
24	1 1/2	.065	10	25	24	9/32

GUIDE FOR USING

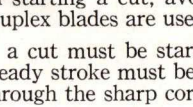
Hand Frame and Power Machine

HACK SAW BLADES

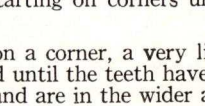
Of all the tools used in the shop, hack saw blades are probably given the least attention. Yet a knowledge of their correct use will greatly increase their efficiency and each blade will more uniformly deliver the long life built into it by the manufacturer. The following pages contain a few suggestions that will materially increase efficiency and endurance of hack saw blades.

HOW TO USE HAND HACK SAW BLADES

1. Be sure the blade is tight enough in the frame to hold it straight and taut. Avoid too much tension, however, as that will break the blade at the pin-holes, especially if the saw is cramped or twisted.
2. In starting a cut, avoid starting on corners unless Duplex blades are used.
3. If a cut must be started on a corner, a very light, steady stroke must be used until the teeth have cut through the sharp corner and are in the wider area.

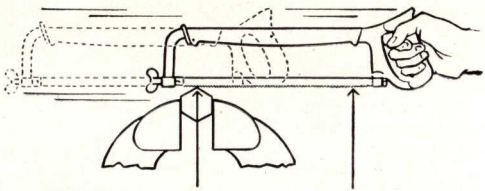


Right



Wrong

4. A long, steady downward stroke will enable an operator to cut faster, cleaner and with far greater blade life.
5. Avoid short, jerky cutting strokes.



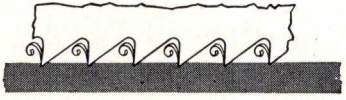
Use steady stroke f-u-l-l l-e-n-g-t-h of blade for most efficient cutting

6. In cutting sheet metal, the blade should be applied at an angle to engage as many teeth as possible. Do not let the teeth straddle the sheet metal as this will rip them out in a single stroke.

Cutting Sheet Metal

Fine Teeth engage and cut — *Coarse Teeth straddle and rip out*

7. At least two teeth should be engaged in the thinnest section of the material cut to prevent ripping. If teeth can straddle the thinnest section, they will catch the work and rip out. If the material is too thin for the finest pitch made, the material must be cut with a very easy stroke and with very little pressure.
8. The larger the area cut, the coarser the tooth. In cutting large sections of soft material with a hand blade, a 14- to 18-tooth blade should be used. As soft material is easier to cut, the blade digs in more



The correct pitch of teeth provides proper chip clearance and easy cutting

readily. Therefore, a coarser tooth blade will take a larger chip, allow more chip space in the teeth, cut freer and easier and carry the chips out of the cut-

ting area. If a fine tooth blade is used for cutting soft materials, the teeth will clog with chips, making the cutting difficult and usually breaking the teeth.

9. The harder or tougher the material to be cut, the slower the cutting stroke.
10. The heavier the stock, the more pressure it is necessary to use.

HAND BLADE APPLICATIONS

Tungsten Alloy Steel

32 TEETH, at apprx. 60 Strokes per min.
Thin Tubing — *Light BX*
Sheet Metal — *Flush Pipe*

24 TEETH, at apprx. 60 Strokes per min.
Brass Tubing — *Iron Pipe*
Heavy BX — *Metal Conduit*

18 TEETH, at apprx. 60 Strokes per min.
Light Angles — *Small Solids*

18 TEETH, at apprx. 40 Strokes per min.
Drill Rod — *High Speed Steels*

14 TEETH, at apprx. 60 Strokes per min.
Soft Steel — *Cast Iron*
Brass — *Bronze*
Rails — *Heavy Angles*

High Speed Steel and Rezistor

Use same pitch but speed can be increased.

Use REZISTOR or HIGH SPEED for all stainless steels.

HOW TO USE POWER SAW BLADES

1. Power hack saw machines should be checked often to make sure they are in good condition.
2. Use a blade that is thick enough, wide enough and the right length for the machine, and with the correct number of teeth.

3. See that the blade is inserted in the machine so that the teeth point in the direction in which the cutting is done. On a draw-cut machine, teeth should point away from the operator; on a push-cut, toward the operator.
4. Don't operate the machine with a loose blade as it will cut crooked and wear out or break more rapidly than a tight blade. After the first or second cut, tighten the blade as it will stretch.
5. Too much weight on a new saw will destroy it quickly, while insufficient pressure will allow the saw to slip or slide without cutting, thus dulling the teeth rapidly.
6. Operate the machine at the correct speed and feed according to material cut.
7. Use a cutting lubricant, except when cutting iron castings. It will reduce friction and wear—will help remove the chips from the cut.
8. If a blade wears out or breaks in a cut do not put a new blade in the same cut, as it will probably wedge or stick since the set on the old blade had worn down.
9. Never run any blade after it has worn out. Power and labor cost per cut will be too great.
10. Tungsten alloy power saw blades should be run at not over 60 strokes per minute if cutting dry. If a cooling lubricant is used, the speed can be increased to 90 to 100 strokes per minute.
11. For maximum efficiency, increase pressure as the saw dulls, thus assuring a cutting rather than rubbing action.

POWER BLADE APPLICATIONS

Using Cutting Lubricant

Tungsten Alloy—Light Power

18 TEETH, at apprx. 60 Strokes per min.

Copper Tubing *Thin Metals*
Light Angle Iron

14 TEETH, at apprx. 60 Strokes per min.

Iron Pipe *Bronze*
Wrought Iron *Copper*

THE HENRY G. THOMPSON & SON CO.

Tungsten Alloy—Heavy Power

14 TEETH, at apprx. 60 Strokes per min.
Steel Tubing *Light Angle Iron*
Hard Materials

10 TEETH, at apprx. 60 Strokes per min.
Iron Pipe *Heavy Angle Iron*
Steel Rails *Brass*
Bronze *Tool Steel*

6 TEETH, at apprx. 60 Strokes per min.
Machine Steel *Soft Steel*
Solid Stock

4 TEETH, at apprx. 60 Strokes per min.
Large Die Blocks *Large Solid Stock*

Rezistor and High Speed Steel

Use the same pitch of teeth as shown above, but double the strokes per min. and increase the pressure. Use REZISTOR and HIGH SPEED STEEL for cutting stainless steels of any description.

THE RESULT AND CORRECTION OF MISUSE

1. ROUNDED TEETH. Premature wear or rounding of teeth is usually caused by too much speed. When teeth wear down quickly, reduce the speed of the blade to 40 or 50 strokes per minute; if tungsten alloy; 90 to 100 strokes per minute if High Speed Steel or REZISTOR. If speed is correct, then check the amount of weight or feed applied to the blade, refer to chart and see if correct number of teeth are being used. Check the operation of the machine to see if blade is raising on the non-cutting stroke. Be sure the teeth of the blade are pointing in the right direction and that the machine is in proper condition, and is operated in the right direction. Be sure cutting compound is the right mixture, approximately 20 to 1.
2. TEETH RIPPING. This is caused principally by too coarse a tooth when cutting thin material or too fine a tooth for cutting soft material. The former is most generally true.
3. BREAKING THE BLADE AT THE PINHOLE. The usual cause of this trouble is drawing the blade too tight in the frame or by twisting the

blade when cutting. The blade should be drawn sufficiently tight to hold it straight and prevent it from twisting or buckling, with a straight, steady stroke.

4. BLADES CUTTING CROOKED. This is invariably due to the fact that the blade has struck a hard spot on one side, wearing the set prematurely. In power machines, if the frame holding the blade is badly worn in the slide or is not in line with the vise, the blade will not cut straight. Crooked cutting may also be caused by blade not being tightened properly in frame, failure to hold stock tight and square in the vise, use of too heavy a feed, or blades being run after cutting edge or set is worn out.
5. BLADES SNAPPING AND BREAKING. If the blade is not worn out, breaking can be caused by dropping the blade on the material at the start of the cut, insufficient tension in the blade to hold it steady and straight, or material cut jamming against the blade as the cut is finished. Premature breakage may also be caused by using a blade with too few teeth per inch for the stock being cut, starting the cut on a sharp corner, dropping blade into the cut with a jar, starting a new blade in a cut that was unfinished by a worn-out blade, too heavy pressure applied in cutting a small surface, or a side strain on the blade.

Starting the Cut with Hand Blades

Right *Wrong*

NOTE: When using the MILFORD DUPLEX blade there is *no* wrong angle to start. It starts the cut AT ANY ANGLE.

THE HENRY G. THOMPSON & SON CO.